

**MASS SPECTROMETERS ON WAFER-SUBSTRATES****ABSTRACT OF THE DISCLOSURE**

An apparatus includes a semiconductor or dielectric wafer-substrate and first  
5 and second multi-layer structures located over the wafer-substrate. The first multi-layer structure includes an ionizer or an electronic ion detector. The second multi-layer structure includes an ion trap having entrance and exit ports. The ionizer or electronic ion detector has a port coupled to one of the ports of the ion trap.